

Fig. 8 Problem 6 layouts

no waste. The approximate solution presents a percent usage which increases when the number of pieces demanded is multiplied by a constant factor.

Table 3 summarises the results obtained when the algorithm is applied to some variations of the two data sets. Figs 6, 7, 8, and 9 show the cutting pattern produced for problems numbers 1, 5, 6 and 7. The performances reported for the random set can reasonably be regarded as average, because the algorithm has shown a stable behaviour.

As can be seen from the results, the method can be used to solve practical problems of large size and proves to be extremely efficient in terms of computer time and to produce solutions close to the true optima.

#### 4. Conclusion

A heuristic method has been described to find an approximate solution of the optimal two dimensional cutting stock problem. Computational experience indicates that the algorithm compares favourably with respect to a previous procedure designed to solve this problem. The algorithm improves its performance with respect to solution time and optimality, by using the quasi-uniform strips, the vertical position for the reference rectangle,

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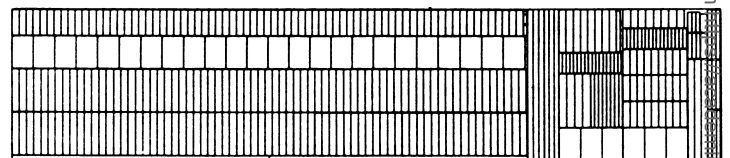
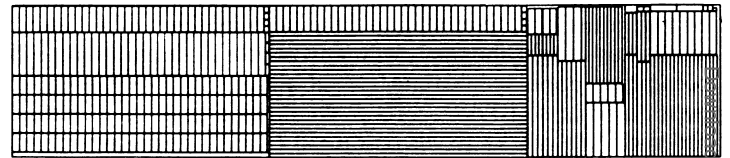
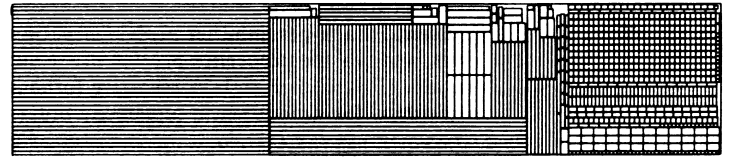
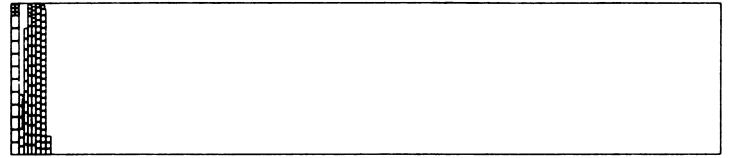


Fig. 9 Problem 7 layouts

and the sequential placement procedure at the end of the allocation process. The results indicate that the algorithm is an effective tool for computing an approximate solution close to the optimal one and extremely efficient in terms of computer time for a wide class of cutting stock problems.

## Visiting graduate teaching positions at the University of Helsinki

The University of Helsinki is to organise an intensified programme of graduate training and postgraduate research in computer science during the academic years 1981-1983. This programme is planned for implementation in co-operation with American and British computer scientists. Visiting scientists would stay in Helsinki for 4-8 months. It is also hoped that they will be able to advise their

Finnish counterparts at the Computing Centre of the University of Helsinki.

Scientists interested in participation in the program are requested to contact Professor Martti Tienari, Department of Computer Science, University of Helsinki, Tukholmankatu 2, SF-00250 Helsinki 25, Finland.